

ABSTRACT

A micro-optic polarization beam multiplexing system has collimating means for introducing a first pair of polarization-perpendicular input beams, collimating means for introducing a second pair of polarization-perpendicular input beams, a polarization beam combiner for combining the first pair and the second pair of input beams into a first combined light beam with wavelength λ_1 and a second combined light beam with wavelength λ_2 , and a filter for multiplexing the first combined light beam and the second combined light beam into an output beam with wavelengths λ_1 and λ_2 . The micro-optic system can also be used inversely for de-multiplexing an input beam with wavelength λ_1 and wavelength λ_2 into a first de-multiplexed light beam with wavelength λ_1 and a de-multiplexed light beam with wavelength λ_2 , and then splitting them into two pairs of polarization-perpendicular beams.